TROPICAL RAINFALL MEASURING MISSION

December 25, 2000 – December 31, 2000
DOY 360 - 366
Day of Mission 1124 - 1130

TRMM MISSION OPERATIONS

- TRMM is flying in the -X Forward direction as of December 28th (00-363) at 04:36:47z.
- Yaw maneuver #52 is scheduled for January 28th (01-028).
- Delta-V #264 is scheduled for January 2nd (01-002), using the ISP thrusters.
- The Beta angle range for 01-001 to 01-007 is -13.2° to -43.4°.
- The next Monthly Status Review (MSR) is scheduled for January 3rd (01-003).
- The next Flight Software CCB meeting is scheduled for January 23rd (01-023).
- The next End of Life Planning meeting is scheduled for January 24th (01-024).
- Extended Mission science operations begin on Monday, January 1st 2001.

The new TRMM Flight Operations website which contains operations-related material including archived Weekly Operations Reports, Spacecraft Performance Evaluation Reports, Special Activity Timelines, and even TRMM Flight Operations Team (FOT) alumni information can be accessed at http://trmm-fot.gsfc.nasa.gov. This site is not yet linked to the official http://trmm.gsfc.nasa.gov website.

TRMM SUBSYSTEM OPERATIONS

Attitude Control System (ACS)

00-362 (Wednesday, December 27th)
Delta-V maneuver #262 was successfully conducted at 16:04:25z and 16:50:11z for durations of 43.000 and 20.750 seconds respectively, using the LBS thrusters. The off-modulation of the +Pitch thruster (#2) for burn 1 and 2 was 23.5% and 19.3% (76.5% and 80.7% on time). The off-modulation of the -Yaw thruster (#1) for burn 1 was 8.4% (91.6% on time). The remaining fuel is 478.225 kg, and the final apogee and perigee height is 354.81 km x 347.60 km.

Yaw Maneuver #51 (180° to -X Forward) was conducted on December 28th (00-363) at 04:36:47z.

00-365 (Saturday, December 30th)
Delta-V maneuver #263 was successfully conducted at 15:41:32z and 16:27:16z for durations of 40.000 and 22.000 seconds respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) for burn 1 and 2 was 38.7% and 36.4% (61.3% and 63.6% on time). The remaining fuel is 476.782 kg, and the final apogee and perigee height is 354.80 km x 347.64 km.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The UTCF was adjusted by -967µs on 00-362 at 23:20:37z. The new value is now 31535996.832828 seconds. The current drift value is -351 µs. The FS offset remains x'7ae' with a current drift rate of -3.6 µs/hr.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

Power Subsystem

The Power subsystem performed nominally during this period.

Electrical Subsystem

The Electrical subsystem performed nominally during this period.

Thermal Subsystem

The Thermal subsystem performed nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period.

RF/Communications Subsystem

The RF/Communications subsystem performed nominally during this period.

SPACECRAFT INSTRUMENTS

CERES

CERES was powered on again on December 14th (00-349). CERES remains in the same condition as it was when it was powered off during the PSIB Anomaly. The Data Acquisition Processor (DAP) does not produce valid telemetry (the telemetry is either railed at the high or low values), and the DAA +15V converter is no longer in voltage regulation. A decision will be made in the next few weeks whether or not to permanently power off the instrument.

LIS

The LIS instrument performed nominally during this period. The standard commands to reset the instrument and reduce accumulated packet sequence errors was performed on December 28th (00/363).

PR

The PR instrument performed nominally during this period.

The list of Internal Calibration times over Australia in which PR was not radiating is shown below:

2000-361/04:56:38z - 04:58:47z
2000-361/21:14:44z - 21:18:34z
2000-362/03:45:04z - 03:47:18z
2000-363/04:07:35z - 04:09:42z
2000-364/02:56:11z - 02:58:24z
2000-364/19:15:55z - 19:18:33z
2000-365/03:18:44z - 03:20:51z
2000-366/02:07:13z - 02:09:24z
2000-366/18:25:09z - 18:30:06z

TMI

The TMI instrument performed nominally during this period.

VIRS

The VIRS instrument performed nominally during this period. Two routine solar calibrations were performed on 00/365 at 06:48:36z and 08:20:00z.

GROUND SYSTEM

Work continues to configure the GSFC Building 14 SOTA-5 as a System Software test string and a backup telemetry, command, and control facility for the Building 32 TRMM MOC. This will be modeled on the configuration which was in place for TRMM L&IOC.

The MOC Local TPOCC Switch (LTS) BED-4 (S/N #0159), which routes data for ports 13-16, experienced a power supply failure (ER #225) on 00/361. Hardware Maintenance replaced the BED with a new one that contained a good power supply on 00/362. All port assignment labels from the front and back of the original unit were transferred to the new one.

The GMT rollover to 01/001 occurred without incident, and Hardware Maintenance saved the new year on the three Front End Panels (FEPs) so that a power cycle will not revert to 2000 again.

Event Reports

#225: LTS BED-4 Power Supply Failure

Generic Late Acquisition Reports (for TTRs 19639)

#78: TDW/SSA1 362/13:30z event. 2 min 03 sec late acquisition - all data recovered.

#79: TDE/SSA2 366/22:17:30z event. 1 min 28 sec late acquisition - all data recovered.

New Anomalies

No new anomalies occurred during this period.

Recurring/Open Anomalies

No open anomalies recurred during this period.

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